

T.C. Memo. 1999-220

UNITED STATES TAX COURT

COMPAQ COMPUTER CORPORATION
AND SUBSIDIARIES, Petitioner v.
COMMISSIONER OF INTERNAL REVENUE, Respondent

Docket No. 24238-96.

Filed July 2, 1999.

Mark A. Oates, John M. Peterson, Jr., James M. O'Brien,
Owen P. Martikan, Paul E. Schick, Robert S. Walton, Tamara L.
Frantzen, Erika S. Schechter, A. Duane Webber, David A. Waimon,
Lafayette G. Harter III, and Steven M. Surdell, for petitioner.
Raymond L. Collins and Todd A. Ludeke, for respondent.

MEMORANDUM FINDINGS OF FACT AND OPINION

COHEN, Chief Judge: Respondent determined deficiencies and
a penalty in petitioner's Federal income taxes as follows:

<u>Taxable Year Ended</u>	<u>Deficiency</u>	<u>Penalty Sec. 6662(a)</u>
Nov. 30, 1991	\$42,422,470	--
Nov. 30, 1992	33,533,968	\$547,619

The issue addressed in this opinion is whether income relating to printed circuit assemblies (PCA's) should be reallocated under section 482 to petitioner from its Singapore subsidiary for its 1991 and 1992 fiscal years. (A separate opinion will address issues, previously tried and briefed, of whether petitioner's purchase and resale of American Depository Receipts in 1992 lacked economic substance and whether petitioner is liable for an accuracy-related penalty pursuant to section 6662(a). Petitioner has also filed a Motion for Summary Judgment on the issue of whether petitioner is entitled to foreign tax credits for certain United Kingdom Advance Corporation Tax payments.) Unless otherwise indicated, all section references are to the Internal Revenue Code in effect for the years in issue.

FINDINGS OF FACT

Some of the facts have been stipulated, and the stipulated facts are incorporated in our findings by this reference.

Compaq Computer Corporation is a Delaware corporation with its principal place of business in Houston, Texas. Compaq Computer Corporation and subsidiaries filed consolidated Federal income tax returns for the taxable years ended November 30, 1991,

and November 30, 1992. As used in this opinion, "petitioner" will refer to Compaq Computer Corporation together with its subsidiaries. "Compaq U.S." will refer to the Compaq Computer Corporation Houston operation that includes the company headquarters and a manufacturing plant.

Background

Compaq U.S. was founded in 1982, when a group of former employees of Texas Instruments designed a portable personal computer (PC) on a place mat in a restaurant. Since its incorporation, Compaq U.S. has been engaged in the business of designing, manufacturing, and selling PC's, and, by 1994, Compaq U.S. had become the world's largest manufacturer of PC's. The success of Compaq U.S. was primarily attributable to its ability to bring high-quality products to market quickly.

At all relevant times, Compaq U.S. manufactured central processing units (CPU's) for its PC's at Compaq U.S. in Houston, at Compaq Asia (Pte) Ltd. (Compaq Asia) in Singapore, and at Compaq Computer Manufacturing Ltd. in Scotland. The materials required to manufacture CPU's include PCA's, the electronic circuitry inside the CPU that allows the PC to operate. Each PCA consists of a printed circuit board, the communication platform to which components are attached, and any number of combinations of chips, resistors, and capacitors. These circuits and boards interconnect to deliver a desired electronic function.

Compaq U.S. had three sources of PCA's. Compaq U.S. manufactured PCA's itself. In addition, Compaq U.S. purchased PCA's from Compaq Asia and from various unrelated PCA subcontractors (unrelated subcontractors) that were primarily located in the United States. Approximately half of the Compaq U.S. 1991 through 1992 PCA requirements were manufactured by Compaq U.S. or purchased from unrelated subcontractors, and the other half were manufactured by Compaq Asia.

PCA Technology

PCA's are characterized by the types of components placed on the printed circuit board. Components are attached to the board through soldering, and components soldered to the surface of the printed circuit board are known as "surface-mount" (SMT) components. Components having leads that are inserted through holes in the printed circuit board and then soldered to the board are "through hole" components. PCA's containing only surface-mount components are known as SMT PCA's, and PCA's containing only through hole components are known as "through hole" PCA's. PCA's that use both through hole and SMT components are known as "mixed technology" PCA's.

Although SMT components are generally smaller than their through hole counterparts, there is no functional difference between them. The SMT process, however, is the newer process and packs components densely on both sides of the printed circuit

board, reducing the size of the PCA by one-third to one-half. During 1991 and 1992, PCA's rarely had only SMT components because some components were not available in the surface-mount format.

The key feature of size for all components, both SMT and through hole, is "lead pitch". Lead pitch is the center-to-center distance between the adjacent leads that connect components to the printed circuit board. For example, the lead pitch of a through hole component may be 100 mils or one-tenth of an inch. By comparison, the lead pitch of a comparable SMT component is about 50 mils.

When lead pitch is reduced to 20 or 25 mils, the component is a "fine pitch" component. Many Compaq U.S. PCA's had multiple fine pitch devices on the same board that required significant process engineering controls, thus increasing the complexity of the manufacturing process. The manufacturing process was further complicated when fine pitch devices were scattered throughout the board, were placed near the edges of the board, or were placed on the bottom side of the board.

SMT manufacturing is capital intensive and works best with SMT placement equipment featuring "vision" technology. This technology has the precise capability to place small SMT components on the correct electronic connections on each printed circuit board during the soldering process. Vision technology

incorporates video cameras that examine each chip's and PCA's rotation and orientation to ensure precise placement.

Compaq U.S. used Fuji placement equipment and generally required unrelated subcontractors to use the same equipment. In addition, SMT manufacturing requires well-trained machine operators to follow detailed manufacturing procedures and experienced engineers to supervise and control the manufacturing process.

Through hole technology is less reliant on manufacturing equipment. Accordingly, through hole components may be inserted manually or by machines, depending upon the number of components on the PCA. When there are very few through hole components or odd-shaped through hole components, the through hole components are inserted manually.

Compaq U.S. Processes

Compaq U.S. used many advanced processes in manufacturing its PCA's. For example, petitioner developed and used the "no-clean" process that eliminated the need to clean PCA's after soldering. Before developing the no-clean process, Compaq U.S. had to clean PCA's, removing flux from the printed circuit board. Flux is a detergent used prior to soldering to remove impurities from the soldering surfaces and to prepare a clean surface for joining. Flux had to be removed after soldering to prevent PCA corrosion and field failures. The no-clean process uses less potent flux that does not cause corrosion or field failures and

does not require removal after soldering takes place. This process, however, requires a controlled soldering atmosphere and tight process controls to prevent defects.

Compaq U.S. also used "paste-in-hole" technology and wave soldering of bottom-side small outline integrated circuits (SOIC's). These processes used different methods of soldering components to printed circuit boards, adding to the manufacturing complexity of PCA's used by Compaq U.S. due to the extensive engineering support and tight manufacturing controls required to use these processes.

In addition, Compaq U.S. used U-shaped continuous flow manufacturing lines rather than the more common "batch processing". Continuous flow manufacturing reduces the time required to manufacture a PCA because a bare printed circuit board starts at the beginning of a manufacturing line and flows through the manufacturing process nonstop until both sides of the board are populated with components and tested for defects. The U-shaped lines used by Compaq U.S. and Compaq Asia featured a layout of lines in a U shape so that testing took place in front of the beginning of the assembly process. With short cycle time and in-circuit testers located in front of the pick-and-place machines (due to the U shape of the line), process controls and immediate corrective actions could be implemented based on test data to ensure quality. In contrast, the batch processing used

by many unrelated subcontractors transfers boards in batches between machines on the manufacturing floor. This results in inventory buildup and increases the defect rate due to reduced quality controls.

After assembly, the PCA's are tested to guarantee that the PCA is functioning properly. There are two types of tests that Compaq U.S. performs: In-circuit tests (ICT) and functional tests. The more precise of the two is ICT. Compaq U.S. uses GenRad testers and specific test programs to perform ICT's and is able to pinpoint specific defects. Functional tests generally detect whether there are defects in the PCA. If an error is found, additional procedures must be performed to locate the specific error.

These tests monitor quality by scrutinizing first-pass yields, the percentage of PCA's that pass tests the first time tested. PCA's that pass these tests the first time are considered to be of higher quality. A PCA that fails either the ICT or functional test is repaired or reworked until the PCA passes the tests and meets the Compaq U.S. quality standards. If the PCA cannot be repaired, it is scrapped. The time and personnel required to debug and rework a board add to the PCA's cost and degrade the PCA's quality and reliability.

Types of PCA's

Compaq U.S. segregated PCA purchases into five different categories of PCA's: Processors, power supplies, memory boards, video boards, and a catchall category entitled backplane/other. At all sites, PCA's within each product category were built using the same design guidelines, the same workmanship standards, the same or virtually identical manufacturing equipment, the same manufacturing process, the same materials purchased from the same approved vendor list (AVL), and were tested using the same or virtually identical test equipment and programs. Within each category, the only differences in the PCA's were the particular components used on each individual PCA and the time required to process the PCA on the manufacturing line.

With respect to power supplies, the global power supply market was made up of two distinct market segments--custom power supplies and commodity power supplies--and the industry generally acknowledged that commodity power supplies were of lesser quality with limited functionality. Power supplies designed by Compaq U.S. and Compaq Asia fell into the custom power supply market segment.

Compaq Asia

In the mid-1980's, Compaq U.S. pursued material cost savings allegedly available in Asian markets in both PC and PCA manufacturing. Specifically, in 1984, petitioner began doing

business with Automated Assembly of Singapore (AAS), purchasing through hole PCA's. AAS did not, however, meet Compaq U.S. quality expectations and was not responsive to Compaq U.S. production demands. Accordingly, petitioner fired AAS in February 1985. Compaq U.S. attempted a similar cost savings effort in 1984 using Bolnar, an unrelated international purchasing organization, but this business relationship was also unsuccessful.

Based on these two unsuccessful attempts to access lower material costs, Compaq U.S. opened Compaq Asia in Singapore in 1986. Compaq Asia was organized under the laws of Singapore and, during all relevant years, was a wholly controlled subsidiary of Compaq U.S. Compaq Asia was primarily a PCA subcontractor, manufacturing all types of PCA's to Compaq U.S. specifications. Compaq Asia shipped its first PCA's in 1987 and, overall, was successful in achieving worldwide material cost savings for Compaq U.S.

The Compaq Asia factory was substantially similar to Compaq U.S. from the architecture of the plant to the makes and models of the machines on the production floors. Specifically, Compaq Asia used the same Fuji vision centering pick-and-place equipment, GenRad test equipment, screen printers, and reflow ovens used by Compaq U.S. In addition, Compaq Asia utilized many of the same manufacturing processes used by Compaq U.S.,

including U-shaped continuous flow manufacturing lines, no-clean, paste-in-hole, and wave soldering of bottom-side SOIC's. Compaq Asia was also responsible for improving designs and manufacturing processes for all Compaq Asia PCA's and CPU's, including designs for custom power supplies, and Compaq Asia built PCA's with multiple fine pitch components that required critical process controls to reduce rework and maintain quality.

As with Compaq U.S., the top priority of Compaq Asia was to produce high-quality products. Compaq U.S. developed in-house workmanship standards that specified acceptable and unacceptable quality of PCA's. All manufacturing sites, including Compaq Asia and unrelated subcontractors, were required to comply with these standards. To ensure quality, Compaq Asia conducted extensive in-house training and used statistical process controls to monitor the processes so Compaq Asia engineers could take quick corrective actions if necessary. As a result, Compaq Asia achieved ICT first-pass yields of 98 percent in 1991 and 97.2 percent in 1992 and functional test first-pass yields of 98.5 percent in 1991 and 98 percent in 1992.

Compaq Asia was more advanced than other Singaporean PCA producers that primarily produced PCA's for disk drives and other small electronic devices, which had few technological, manufacturing, and process control requirements. Accordingly, Compaq Asia did not compete with those companies because those

Singaporean subcontractors did not have the technology to manufacture PCA's to satisfy Compaq U.S. quality expectations.

Standard Costs

Like most organizations that produce a large number of individual products using processes that are both complex and relatively standardized, during the years in issue, Compaq U.S. and Compaq Asia tracked their manufacturing costs using a standard cost system that assigned specific costs to arrive at a material standard, a labor standard, and an overhead standard. The standard material costs for Compaq U.S. and Compaq Asia were estimates of future costs expected to be paid for materials from vendors on the Compaq U.S. AVL. The standard labor and overhead costs for Compaq U.S. were based on forecasted production in the Houston facility. The standard labor and overhead costs for Compaq Asia were based on forecasted production in the Singapore facility. The standard costs for material, labor, and overhead for Compaq Asia were generally lower than the same standard costs for Compaq U.S.

Transfer Prices

Purchases from Compaq Asia satisfied approximately one-half of the PCA needs of Compaq U.S. from 1990 to 1993. During that time, Compaq U.S. purchased the following amounts of PCA's from Compaq Asia:

	<u>Power Supplies</u>	<u>Processors</u>	<u>Memory Boards</u>	<u>Video Boards</u>	<u>Backplane/ Other</u>	<u>Total</u>
<u>1991</u>						
Unit sales	1,065,966	382,286	30,191	74,090	180,611	1,733,144
Compaq Asia PCA shipments (\$)	\$143,474,373	\$167,151,642	\$5,570,843	\$11,632,130	\$11,919,452	\$339,748,440
<u>1992</u>						
Unit sales	1,293,140	514,154	0	195,751	1,571,896	3,574,941
Compaq Asia PCA shipments (\$)	\$94,643,303	\$187,135,315	\$0	\$24,260,291	\$73,486,057	\$379,524,966
<u>1991-1992</u>						
Unit sales	2,359,106	896,440	30,191	269,841	1,752,507	5,308,085
Compaq Asia PCA shipments (\$)	\$238,117,676	\$354,286,957	\$5,570,843	\$35,892,421	\$85,405,509	\$719,273,406

Compaq U.S. paid what is recognized in the industry as the turnkey price for the PCA's listed above. In turnkey transactions, unrelated subcontractors purchase materials and components from suppliers on the Compaq U.S. AVL, paying the same prices as Compaq U.S. The turnkey price paid by Compaq U.S. compensated unrelated subcontractors for materials, labor, and overhead as well as a profit markup on each. In contrast, Compaq U.S. purchased other PCA's on a consignment basis. In consignment transactions, Compaq U.S. consigned raw materials and components to the subcontractor, and the consignment price paid by Compaq U.S. compensated unrelated subcontractors for their labor and overhead costs plus a profit on the labor and overhead.

Because there was stiff competition from unrelated subcontractors for most PCA's, prices were set at levels allowed by the market. The prices for Compaq Asia PCA's were set

semiannually by the Compaq U.S. tax department and were based on Compaq U.S. standard manufacturing costs that Compaq U.S. used as a benchmark for purchasing PCA's from unrelated subcontractors. The prices did not, however, include compensation for overtime, rework performed, changes in material prices, changes in the delivery schedule, material cancellation costs, inventory shrinkage, production scrap, setup charges, or obsolete inventory.

Specifically, in 1991 and 1992, the transfer prices for Compaq Asia PCA's were set using a cost-plus formula, pursuant to section 1.482-2A(e)(1), Income Tax Regs. The formula was Compaq U.S. labor and overhead costs minus Compaq U.S. overhead costs that would continue to be incurred by Compaq U.S. despite manufacture of PCA's at Compaq Asia (Compaq U.S. fixed overhead costs) multiplied by 1.15 plus Compaq U.S. material costs. Compaq Asia costs were not used as part of the transfer price analysis.

In 1992, the formula was amended, and Compaq Asia material, labor, and overhead costs were multiplied by 1.3, plus a total location savings times .3. The total location savings was calculated by subtracting Compaq Asia material, labor, and overhead costs and Compaq U.S. fixed overhead costs from Compaq U.S. standard material, labor, and overhead costs.

Compaq Asia sales to Compaq U.S. during 1991 and 1992 were 101.5 and 88.1 percent of Compaq U.S. standard cost to produce the PCA's, respectively. On an aggregate basis, Compaq Asia sold PCA's to Compaq U.S. at an average transfer price that was equal to 93.9 percent of Compaq U.S. standard costs for 1991 and 1992. The following table breaks down the PCA's into separate categories and compares Compaq Asia prices to Compaq U.S. standard cost during 1991 and 1992:

	<u>Power Supplies</u>	<u>Processors</u>	<u>Memory Boards</u>	<u>Video Boards</u>	<u>Backplane/ Other</u>	<u>Total</u>
Compaq Asia PCA shipments (units)	2,359,106	896,440	30,191	269,841	1,752,507	5,308,085
Compaq Asia PCA shipments (\$)	\$238,117,676	\$354,286,957	\$5,570,843	\$35,892,421	\$85,405,509	\$719,273,406
Compaq US std. cost	\$283,325,817	\$350,280,911	\$5,456,326	\$36,505,921	\$90,134,571	\$765,703,546
Compaq Asia price as % of Compaq US std. cost	84.0%	101.1%	102.1%	98.3%	94.8%	93.9%

Unrelated Subcontractors

In addition to making purchases from Compaq Asia, Compaq U.S. also purchased PCA's from unrelated subcontractors during 1990 to 1993 and had used unrelated subcontractors as a source of PCA's since 1983. Compaq U.S. maintained this ongoing relationship with its unrelated subcontractors so it would be able to respond to market demands when necessary, bringing products to market as quickly as possible. Compaq U.S. also used the prices that were paid to the unrelated subcontractors as a benchmark for its standard manufacturing costs.

In evaluating potential subcontractors, Compaq U.S. required subcontractors to have significant manufacturing experience, financial stability, competent management, and strong engineering. Compaq U.S. developed the World Class Supplier Process Survey (the WCSP) to evaluate new subcontractors and to provide feedback to existing subcontractors. This survey takes into consideration quality system management, documentation, procurement, manufacturing and material control, final acceptance, calibration, quality information, and statistical process control. The Compaq U.S. Commodity Management Team (CMT) was responsible for administering the WCSP and evaluating PCA subcontractors. In selecting subcontractors, the CMT chose subcontractors to complete the WCSP, and, from this information, the CMT picked which subcontractors to visit and evaluate.

Compaq U.S. preferred that unrelated subcontractors use the same Fuji manufacturing equipment, GenRad test equipment, and programs in their manufacturing process that Compaq U.S. used in manufacturing PCA's. This allowed Compaq U.S. to provide customer support to its unrelated subcontractors and to troubleshoot a problem because it was familiar with the equipment. In addition, the same equipment allows the unrelated subcontractors to use the same programs. Compaq U.S. also preferred its subcontractors to use the continuous flow rather than the batch manufacturing process, although most

subcontractors operated in batch mode from 1990 to 1993.

Compaq U.S. required unrelated subcontractors to meet Compaq U.S. quality standards and guidelines in manufacturing PCA's.

Compaq U.S. worked closely with unrelated subcontractors to develop relationships that would improve quality and on-time delivery. In addition, members of the CMT visited the subcontractors or the subcontractors visited Compaq U.S. for training, new product introduction, and problem resolution.

In 1991 and 1992, competition among unrelated subcontractors for PCA business was intense and was driven by technology, quality, service, price, and the ability to deliver on time. The competition was also global in scope as the Compaq U.S. unrelated subcontractors that were located in the United States not only competed against each other but also competed against Far East subcontractors, including Compaq Asia.

Compaq U.S. purchases from unrelated subcontractors were primarily on a consignment arrangement. The unrelated subcontractors with which Compaq U.S. did business were as follows: IEC; SCI Manufacturing, Inc. (SCI); Philips Circuit Assemblies, Inc. (Philips); Victron, Inc. (Victron); Lung Hwa Electronics Company (Lung Hwa); Citizen Watch Co., Ltd. (Citizen); Avex Electronics, Inc. (Avex); Solecron Corporation (Solecron); Celestica; GSS/Array Technology, Inc. (GSS/Array); Texas Instruments, Inc. (Texas Instruments); Jabil Circuit, Inc.

(Jabil); Xetel Corporation (Xetel); and Bull HN Information Systems, Inc. (Bull HN).

Most of these unrelated subcontractors were located in the United States; however, there were some exceptions. Lung Hwa was a Taiwanese PCA manufacturer from which Compaq U.S. purchased PCA's from 1990 through 1993, and Solecron had plants in the United States and Malaysia. However, the Solecron plant in Malaysia primarily manufactured simple PCA's for disk drives and telephone headsets. The more complex Solecron boards were built at the Solecron California plant because that plant was more advanced.

Most of the unrelated subcontractors that did business with Compaq U.S. between 1990 and 1993 used the same pick-and-place equipment and test equipment as Compaq U.S. There were, however, some exceptions. For example, Compaq U.S. tolerated the use by Philips of non-Fuji equipment because Philips manufactured the pick-and-place equipment that it used and was capable of operating and repairing Philips equipment, alleviating potential production concerns. Philips, however, later converted to Fuji placement equipment. Lung Hwa used Panasert and Xetel used Panasonic placement equipment rather than Fuji machines, but Compaq U.S. ultimately terminated its business relationship with both companies. Lung Hwa was unable to meet Compaq U.S. production demands without exceeding quoted prices, and Xetel

experienced significant manufacturing and quality problems when it converted the machines to vision technology. Compaq U.S. was unable to provide technical assistance to Xetel because the machines were not Fuji machines.

In addition to difficulties with subcontractors having different machines, Compaq U.S. also experienced difficulty with subcontractors that used different processes, including Texas Instruments. Although Texas Instruments had acceptable quality, its use of the batch process of manufacturing created some difficulties in shipping PCA's on time.

Compaq U.S. purchases from Compaq Asia were nearly identical to purchases from unrelated subcontractors, but there were some differences in the transactions between the parties. For example, Compaq U.S. incurred additional freight and duty costs annually when dealing with Compaq Asia in the amounts of \$2.6 million and \$1.2 million, respectively. With respect to materials, Compaq Asia was responsible for leftover parts while Compaq U.S. reimbursed unrelated subcontractors for leftover parts. In addition, Compaq U.S. paid Compaq Asia in 90.9 days while unrelated subcontractors were generally paid in 30.3 days. Another transactional difference was that Compaq U.S. paid for setup charges in transactions with unrelated subcontractors in the amount of \$2.9 million during 1991 and 1992 while not making comparable payments to Compaq Asia.

During 1990 through 1993, 93 percent of Compaq U.S. purchases from unrelated subcontractors were from subcontractors located in the United States. Compaq U.S. had some bad experiences with unrelated subcontractors in foreign countries, and, when demand for Compaq U.S. products increased in 1992, Compaq U.S. increased its purchases from unrelated subcontractors in the United States rather than purchasing from Far East subcontractors.

Respondent's Audit Determination

In response to information requests during the audit, petitioner described its transfer price formula as "a cost plus formula inclusive of location savings" and stated that the comparable uncontrolled price method (the CUP method) was not applicable to petitioner's purchase of PCA's from Compaq Asia. Respondent adopted a modified cost-plus or profits-based fourth method pursuant to section 1.482-2A(e)(1)(iii), Income Tax Regs., marking up Compaq Asia manufacturing costs by an operating profit markup of 7.5 percent. This method was based on the report of respondent's staff economist, Peter Balash (Balash), and produced an aggregate price for Compaq Asia PCA's that was \$232,402,000 less than the Compaq U.S. 1991 and 1992 combined return positions. Accordingly, respondent determined that the prices that Compaq U.S. paid to Compaq Asia for PCA's during 1991 and

1992 did not constitute arm's-length prices. The notice of deficiency increased Compaq U.S. income by the following amounts:

<u>Taxable Year Ended</u>	<u>Amount</u>
Nov. 30, 1991	\$124,482,000
Nov. 30, 1992	90,370,000

Petitioner's Analysis

Prior to trial, petitioner abandoned its cost-plus method of calculating the arm's-length prices for Compaq Asia PCA's and, at trial, defended the intercompany prices pursuant to the CUP method based on Compaq U.S. regular and substantial purchases of identical or nearly identical PCA's from uncontrolled subcontractors.

To support its position at trial of this case, Compaq U.S. compared these prices to its standard cost, which was on a turnkey basis, using a process referred to as the turnkey equivalent. The turnkey equivalent is the sum of the turnkey transactions and the adjusted consignment transactions. Adjusted consignment transactions are calculated by taking consignment transactions with unrelated subcontractors and adding Compaq U.S. standard material costs plus a material markup of 17.7 percent, a markup that was derived from Compaq U.S. turnkey purchases of \$96.6 million from IEC Electronics Corporation (IEC), an unrelated subcontractor of Compaq U.S.

The material markup used by Compaq U.S. was a function of the risk taken by the unrelated subcontractor. In the PCA industry during 1990 through 1993, material markups ranged from 10 percent to 32 percent with an average at approximately 18 to 20 percent. To complete the comparison, the turnkey equivalent was then divided by the quantity of PCA's to arrive at a weighted average for unrelated subcontractor prices.

Between 1990 and 1993, Compaq U.S. purchased over 3.6 million PCA's from 14 unrelated subcontractors at an aggregate price of \$197.5 million on both a turnkey and consignment basis. These purchases translated into an aggregate turnkey equivalent price of \$597 million.

The following chart sets forth all Compaq U.S. purchases from unrelated subcontractors during 1990 to 1993:

	<u>Power Supplies</u>	<u>Processors</u>	<u>Memory Boards</u>	<u>Video Boards</u>	<u>Backplane/ Other</u>	<u>Total</u>
<u>Avex</u>						
Units	0	4,874	53,156	0	9,310	67,340
Purchases	\$0	\$922,015	\$1,262,726	\$0	\$600,392	\$2,785,133
Turnkey equivalent purchases	\$0	\$1,725,009	\$4,997,506	\$0	\$84,546	\$6,807,061
% of Compaq U.S. standard cost						92.3%
<u>Bull HN</u>						
Units	0	24,842	0	0	0	24,842
Purchases	\$0	\$1,040,555	\$0	\$0	\$0	\$1,040,555
Turnkey equivalent purchases	\$0	\$13,462,015	\$0	\$0	\$0	\$13,462,015
% of Compaq U.S. standard cost						99.9%
<u>Celestica</u>						
Units	0	0	13,044	0	0	13,044
Purchases	\$0	\$0	\$1,188,804	\$0	\$0	\$1,188,804
Turnkey equivalent purchases	\$0	\$0	\$2,677,985	\$0	\$0	\$2,677,985
% of Compaq U.S. standard cost						127.8%
<u>Citizen</u>						
Units	150,796	17,935	0	0	8,770	177,501
Purchases	\$5,459,073	\$3,472,731	\$0	\$0	\$1,309,651	\$10,241,455
Turnkey equivalent purchases	\$5,430,032	\$3,458,607	\$0	\$0	\$0	\$8,888,639
% of Compaq U.S. standard cost						92.8%

	<u>Power Supplies</u>	<u>Processors</u>	<u>Memory Boards</u>	<u>Video Boards</u>	<u>Backplane/ Other</u>	<u>Total</u>
<u>Philips</u>						
Units	0	239,040	2,927	3,676	48,572	294,215
Purchases	\$0	\$8,201,016	\$93,401	\$98,540	\$1,169,734	\$9,562,691
Turnkey equivalent purchases	\$0	\$32,418,471	\$572,876	\$435,850	\$3,248,842	\$36,676,039
% of Compaq U.S. standard cost						100.7%
<u>GSS/Array</u>						
Units	0	935	0	0	7,535	8,470
Purchases	\$0	\$74,301	\$0	\$0	\$130,535	\$204,836
Turnkey equivalent purchases	\$0	\$890,951	\$0	\$0	\$142,016	\$1,032,967
% of Compaq U.S. standard cost						103.1%
<u>IEC</u>						
Units	218,017	30,501	856,975	354,865	1,114,749	2,575,107
Purchases	\$8,199,787	\$3,002,002	\$71,898,596	\$12,483,282	\$43,263,839	\$138,847,506
Turnkey equivalent purchases	\$13,210,344	\$22,670,598	\$189,562,990	\$58,536,941	\$94,979,747	\$378,960,620
% of Compaq U.S. standard cost						100.0%
<u>Jabil</u>						
Units	0	0	0	0	5,170	5,170
Purchases	\$0	\$0	\$0	\$0	\$139,745	\$139,745
Turnkey equivalent purchases	\$0	\$0	\$0	\$0	\$649,008	\$649,008
% of Compaq U.S. standard cost						98.6%
<u>Lung Hwa</u>						
Units	0	71,800	0	0	0	71,800
Purchases	\$0	\$7,715,073	\$0	\$0	\$0	\$7,715,073
Turnkey equivalent purchases	\$0	\$13,382,018	\$0	\$0	\$0	\$13,382,018
% of Compaq U.S. standard cost						103.2%
<u>SCI</u>						
Units	0	138,611	35,715	8,772	20,208	203,306
Purchases	\$0	\$6,609,212	\$12,284,380	\$120,016	\$419,143	\$19,432,751
Turnkey equivalent purchases	\$0	\$81,769,623	\$7,572,742	\$601,398	\$2,640,192	\$92,583,955
% of Compaq U.S. standard cost						100.4%
<u>Solectron</u>						
Units	0	18,612	0	5,747	0	24,359
Purchases	\$0	\$900,327	\$0	\$176,032	\$0	\$1,076,359
Turnkey equivalent purchases	\$0	\$4,926,367	\$0	\$750,686	\$0	\$5,677,053
% of Compaq U.S. standard cost						92.6%
<u>Texas Instruments</u>						
Units	0	3,880	0	0	0	3,880
Purchases	\$0	\$692,192	\$0	\$0	\$0	\$692,192
Turnkey equivalent purchases	\$0	\$2,214,649	\$0	\$0	\$0	\$2,214,649
% of Compaq U.S. standard cost						105.9%
<u>Victron</u>						
Units	0	38,938	1,150	0	80,730	120,818
Purchases	\$0	\$1,227,790	\$8,165	\$0	\$1,558,070	\$2,794,025
Turnkey equivalent purchases	\$0	\$11,293,117	\$43,296	\$0	\$7,093,363	\$18,429,776
% of Compaq U.S. standard cost						96.70%
<u>Xetel</u>						
Units	0	18,025	0	9,454	0	27,479
Purchases	\$0	\$1,417,640	\$0	\$396,280	\$0	\$1,813,920
Turnkey equivalent purchases	\$0	\$15,063,197	\$0	\$606,661	\$0	\$15,669,858
% of Compaq U.S. standard cost						110.3%

	<u>Power Supplies</u>	<u>Processors</u>	<u>Memory Boards</u>	<u>Video Boards</u>	<u>Backplane/ Other</u>	<u>Total</u>
<u>Vendor Totals</u>						
Units	368,813	607,993	962,967	382,514	1,295,044	3,617,331
Purchases	\$13,658,860	\$35,274,854	\$86,736,072	\$13,274,150	\$48,591,109	\$197,535,045
Turnkey equivalent purchases	\$18,640,376	\$203,274,622	\$205,427,395	\$60,931,536	\$108,837,714	\$597,111,643
% of Compaq U.S. standard cost						100.2%
Average weighted by Compaq Asia production						93.1%

(Generally, the turnkey equivalent is greater than the actual purchases because the turnkey equivalent includes the aggregate purchase price in all transactions plus material cost and material markup components to adjust consignment transactions to the turnkey basis. There are instances in the chart when the turnkey equivalent is less than the actual purchases from an unrelated subcontractor (i.e., Avex, Citizen, and SCI). This result is seemingly inconsistent with the foregoing definition of turnkey equivalent.

The deviation in the chart from the norm is attributable to petitioner's inability to locate standard cost data from Compaq U.S. to correspond with the PCA's purchased in certain transactions with the identified unrelated subcontractors. Accordingly, petitioner excluded the transactions from the analysis because petitioner was unable to compare the purchases from the unrelated subcontractor with the appropriate Compaq U.S. standard cost.

This chart compares the Compaq U.S. turnkey equivalent payments to unrelated subcontractors to the Compaq U.S. standard

costs for the PCA's. The analysis indicates that Compaq U.S. paid an average price to the unrelated subcontractors of 100.2 percent of Compaq U.S. standard cost. If the average is weighted to reflect Compaq Asia production of power supplies, processors, memory boards, video boards and backplane/other boards in 1991 and 1992, the analysis results in an average price of 93.1 percent of Compaq U.S. standard cost.)

ULTIMATE FINDINGS OF FACT

Compaq U.S. bought 3.6 million PCA's worth \$597 million on a turnkey equivalent basis from unrelated subcontractors. The PCA's were nearly identical to PCA's sold by Compaq Asia to Compaq U.S. After adjustment for differences in physical property and circumstances of the sales, the prices that Compaq U.S. paid to the unrelated subcontractors for PCA's were comparable to the prices that Compaq U.S. paid to Compaq Asia for PCA's.

OPINION

The issue that we are considering here is whether the transfer prices for PCA's that were charged between Compaq U.S. and Compaq Asia meet the arm's-length standard of section 482. Petitioner asserts that respondent's notice determinations are unacceptable and that comparable transactions between unrelated parties prove that the transfer prices satisfy the arm's-length

standard. Petitioner argues that, under the CUP method dictated by section 482 regulations, petitioner's proof must prevail.

Respondent asserts that petitioner has not presented comparable uncontrolled prices to prove that its transfer pricing system should be upheld, and thus the amounts determined under the notice of deficiency should be sustained or, alternatively, that we should adopt the recommendations of respondent's experts. Respondent's primary argument is that petitioner's turnkey equivalent analysis is not based on actual transactions and, therefore, does not satisfy the applicable regulations.

Both parties presented experts to support their respective positions. We do not list or discuss here the qualifications of the experts. Our decision is not based on comparing qualifications, and listing them would unduly lengthen this opinion. Similarly, we do not use titles in this opinion because we do not wish to imply any greater deference to the academic experts than to the industry experts. Rather, we focus on the degree to which the experts' opinions are supported by the evidence. We reject conclusory opinions that are unexplained or are contrary to the factual evidence, and we do not discuss at length any opinion that, although undisputed or logically persuasive, does not affect our factual conclusions on this issue.

Section 482 gives respondent broad authority to allocate gross income, deductions, credits, or allowances between two related corporations if the allocations are necessary either to prevent evasion of taxes or to reflect clearly the income of the corporations. See Seagate Tech., Inc. and Consol. Subs. v. Commissioner, 102 T.C. 149, 163 (1994). The applicable standard is arm's-length dealing between taxpayers unrelated by ownership or control. See sec. 1.482-1A(b)(1), Income Tax Regs. As stated in Sundstrand Corp. & Subs. v. Commissioner, 96 T.C. 226, 353 (1991):

The purpose of section 482 is to prevent the artificial shifting of the net incomes of controlled taxpayers by placing controlled taxpayers on a parity with uncontrolled, unrelated taxpayers. * * *

* * * the regulations attempt to identify the "true taxable income" of each entity based on the taxable income which would have resulted had the entities been uncontrolled parties dealing at arm's length. * * *

When respondent has determined deficiencies based on section 482, the taxpayer bears the burden of showing that the allocations are arbitrary, capricious, or unreasonable. See id.; Eli Lilly & Co. v. Commissioner, 84 T.C. 996, 1131 (1985), *affd.* on this issue, *revd.* in part, and remanded 856 F.2d 855, 860 (7th Cir. 1988).

Respondent's section 482 determination must be sustained absent a showing of abuse of discretion. See Bausch & Lomb, Inc. v. Commissioner, 92 T.C. 525, 582 (1989), *affd.* 933 F.2d 1084 (2d

Cir. 1991); G.D. Searle & Co. v. Commissioner, 88 T.C. 252, 358 (1987); Paccar, Inc. v. Commissioner, 85 T.C. 754, 787 (1985), affd. 849 F.2d 393 (9th Cir. 1988). "Whether respondent has exceeded his discretion is a question of fact. * * * In reviewing the reasonableness of respondent's determination, the Court focuses on the reasonableness of the result, not on the details of the methodology used." Sundstrand Corp. & Subs. v. Commissioner, supra at 353-354; see also American Terrazzo Strip Co. v. Commissioner, 56 T.C. 961, 971 (1971). In most instances where respondent abandons his notice position at trial, courts conclude that allocations in the notice under section 482 are arbitrary and capricious. See, e.g., Sundstrand Corp. & Subs. v. Commissioner, supra at 354-358; Perkin-Elmer Corp. & Subs. v. Commissioner, T.C. Memo. 1993-414.

Petitioner contends that respondent did not present evidence to support the deficiencies in the notice. In determining the notice amounts, respondent redetermined the Compaq Asia prices using section 1.482-2A(e)(1)(iii), Income Tax Regs. Accordingly, respondent increased Compaq Asia manufacturing costs by an operating profit of 7.5 percent, resulting in a \$232,402,000 income allocation with respect to Compaq Asia PCA's. This adjustment was based on reports of respondent's staff economist, Balash. At trial, Balash did not testify as an expert, and the opinion portion of his report was not admitted as expert

evidence. Instead, respondent relied heavily on the economic analysis of Clark J. Chandler (Chandler) to support respondent's section 482 allocation. Respondent neither presented an alternative CUP analysis nor proposed specific adjustments to petitioner's analysis.

Chandler used two cost-plus alternatives. One, using IEC as a cost-plus comparable, resulted in a weighted average markup on total Compaq Asia standard costs of 15.2 percent. After he factored in accounting differences between Compaq Asia and IEC, the result was a weighted average markup on Compaq Asia standard costs of 6.5 percent. Based on an analysis of operating margins and operating profits as a percent of average operating assets, as well as on an analysis of operating assets divided by total assets, Chandler concluded that respondent's determination was reasonable. He also used underlying data from IEC to determine weighted average CUP/cost-plus markups over Compaq Asia total standard costs of 12.2 percent for 1991 and 14.2 percent for 1992.

Chandler, however, used unrealistic material, labor, and overhead markups in applying his formulas. If markups in the range of industry markups are used, the results of Chandler's analysis bear no recognizable relation to respondent's notice amounts. As set forth below, petitioner's CUP analysis establishes an arm's-length price for PCA purchases by Compaq

U.S. from Compaq Asia that is approximately \$232 million greater than respondent's determination in the notice. Due to the significant difference in these arm's-length prices and respondent's determination in the notice of deficiency, we conclude that respondent's allocations lead to an unreasonable result and are thus arbitrary, capricious, and unreasonable.

Respondent argues that the shortcomings of the notice should be excused because respondent assertedly considered all of the evidence available to him at the time that he issued the notice. Respondent argues an analogy to ASAT, Inc. v. Commissioner, 108 T.C. 147, 166-167 (1997). Specifically, respondent contends that petitioner used the cost-plus method in arriving at the return position but at trial used the CUP method to establish the arm's-length prices of Compaq U.S. purchases from Compaq Asia. Accordingly, respondent argues that the deficiency determination should not be held arbitrary and capricious because, when the notice position was formulated, it was reasonable. Unlike the situation in ASAT, Inc., which applied the sanction aspects of section 6038A, respondent here was not denied any information necessary to a reasonable determination. Petitioner's change of position is not the equivalent of unfair withholding of evidence. Petitioner's conduct does not, in this case, enhance the credibility of the statutory notice.

Arm's-Length Prices

In addition to proving that the deficiencies set forth in the notice are arbitrary, capricious, or unreasonable, petitioner must also prove that the prices charged by Compaq Asia were consistent with arm's-length pricing. See Seagate Tech., Inc. & Consol. Subs. v. Commissioner, 102 T.C. at 163; Eli Lilly & Co. v. Commissioner, 84 T.C. at 1131. The regulations set forth three pricing methods to determine whether there is an appropriate arm's-length price. First, if comparable uncontrolled sales exist, the regulations mandate that the CUP method be used. If there are no comparable uncontrolled sales, the resale price method must be utilized if the standards for its application are met. If the standards for the resale price method are not satisfied, either that method or the cost-plus method may be used, depending upon which method is more feasible and is more likely to result in an accurate estimate of an arm's-length price. Where none of the three methods can be reasonably applied, some other appropriate method may be used. See sec. 1.482-2A(e)(1), Income Tax Regs.

Under the CUP method, the arm's-length price of a controlled sale is equal to the price paid in comparable uncontrolled sales including necessary adjustments. "Uncontrolled sales" are sales in which the seller and the buyer are not members of the same controlled group. These include sales between a member of the

controlled group and an unrelated party, as well as unrelated sales in which none of the parties are members of the controlled group. Uncontrolled sales are considered "comparable" to controlled sales if the physical property and circumstances involved in the uncontrolled sales are identical to the physical property and circumstances involved in the controlled sales or if such properties and circumstances are so nearly identical that differences either have no effect on price or such differences can be reflected by a reasonable number of adjustments to the price of the uncontrolled sales. Adjustments can be made only where such differences have a definite and reasonably ascertainable effect on price. Some of the differences listed in the regulations as possibly affecting price are differences in quality, terms of sale, intangible property associated with the sale, level of the market, and geographic market in which the sales takes place. Whether differences render sales noncomparable depends upon the particular circumstances and property involved. See sec. 1.482-2A(e)(2), Income Tax Regs.

Petitioner has presented substantial evidence of uncontrolled transactions with unrelated subcontractors. Petitioner's CUP analysis is predicated on Compaq U.S. purchases of 3.6 million PCA's from unrelated subcontractors between 1990 and 1993. The aggregate purchase price of these PCA's totaled \$597 million on a turnkey equivalent basis and was 93.1 percent

of the Compaq U.S. standard cost. In addition, the purchases occurred in the regular course of business and were substantial in both frequency and amount. See Seagate Tech., Inc. & Consol. Subs. v. Commissioner, supra at 188 (rejecting CUP comprised of single transaction). Although these transactions were not identical to the controlled transactions involving Compaq Asia, we conclude that they are sufficiently similar to provide a reliable measure of an arm's-length result. Thus, the purchases from unrelated subcontractors identified by petitioner qualify as comparable uncontrolled sales for purposes of application of the CUP method.

Compaq U.S. purchases of PCA's from unrelated subcontractors, however, differ in some respects from the PCA purchases from Compaq Asia. Accordingly, within the context of section 1.482-2A(e)(2)(ii), Income Tax Regs., and the particular facts in this case, the specific differences between the Compaq U.S. purchase of PCA's from Compaq Asia and unrelated subcontractors must be examined to determine "Whether and to what extent differences in the various properties and circumstances affect price."

As expressly authorized by section 1.482-2A(e)(1)(iv), Income Tax Regs., Compaq U.S. segregated the PCA purchases from Compaq Asia and unrelated subcontractors into different categories of PCA's. Within each category, the PCA's had only

minor physical differences. The difference in price relating to the minor differences in physical properties can be quantified with definite and reasonably ascertainable adjustments. See sec. 1.482-2A(e)(2)(ii), Example (3), Income Tax Regs. ("Since minor physical differences in the product generally have a definite and reasonably ascertainable effect on prices, such differences do not normally render the uncontrolled sales noncomparable to the controlled sales.").

The record demonstrates that the only differences in PCA's within each product category were the particular components used on each individual PCA and the time required to process PCA's on the manufacturing line. We are persuaded that these differences can be corrected with adjustments to Compaq U.S. standard costs. The Compaq U.S. standard cost of labor and overhead is equal to the time required to process a given PCA multiplied by the Compaq U.S. hourly labor and overhead rate. The Compaq U.S. standard material cost for a given PCA is the sum of the unburdened purchase order prices for each and every component used on the PCA as set forth in the bill of materials. Thus, according to petitioner, the Compaq U.S. standard costs account for differences in the time required to process a PCA and in the cost of the materials on the PCA.

Based on the uncontrolled purchases of 3.6 million PCA's, the turnkey equivalent price of PCA's purchased from unrelated

subcontractors was 93.1 percent of the Compaq U.S. standard costs weighted to the Compaq Asia production amount. Compaq Asia turnkey prices were 93.9 percent of the Compaq U.S. standard cost. Thus, the relationship between Compaq Asia prices and unrelated subcontractors prices is definite, and a reasonably accurate adjustment can be made using these ratios.

Adjusting for minor physical differences and differences in production time in this manner is consistent with Compaq U.S. actual arm's-length dealings and real world experience: unrelated subcontractor prices are directly related to Compaq U.S. standard costs to produce the PCA's in-house. Accordingly, a decrease of \$6.4 million in the Compaq Asia aggregate price may be warranted for physical differences and differences in production time.

Quality is also a factor that may affect price. In this case, however, no adjustment is necessary because the PCA's that were purchased from Compaq Asia were of equal or greater quality than the unrelated subcontractor PCA's.

Compaq U.S. occasionally reworked defective PCA's that were purchased from Compaq Asia and unrelated subcontractors. In so doing, Compaq U.S. reworked a significantly higher percentage of unrelated subcontractors' PCA's than of Compaq Asia PCA's. During 1991 and 1992, Compaq U.S. incurred costs of \$1.3 million to rework defective Compaq Asia PCA's. Compaq U.S. did not

charge Compaq Asia or unrelated subcontractors for this rework activity. Petitioner, however, adjusted the uncontrolled price by the full amount of Compaq U.S. rework costs on Compaq Asia PCA's, decreasing the Compaq Asia aggregate price by the \$1.3 million of rework of defective PCA's.

Differences in payment terms also affect price, but an adjustment can be made to make controlled and uncontrolled sales comparable. In this case, Compaq U.S. paid unrelated subcontractors in 30.3 days and paid Compaq Asia in 90.9 days. Using the contemporaneous monthly prime rate, the payment term adjustment sought by petitioner would increase the Compaq Asia aggregate price by \$8.9 million.

Only one adjustment is necessary for the intangible property associated with the controlled and uncontrolled transactions. Compaq U.S. purchased power supplies from unrelated subcontractors and Compaq Asia. Unlike unrelated subcontractors such as IEC and Citizen, which merely built power supplies to Compaq U.S. specifications, Compaq Asia had joint design responsibilities for power supplies with Compaq U.S. Thus, all things being equal, Compaq Asia should have been paid more than the unrelated subcontractors for the services provided to Compaq U.S. The uncontroverted evidence establishes that, in the power supply sector of the PCA industry, power supply design services add approximately 5 percent over and above the price to have

power supplies manufactured to specifications. Thus, petitioner contends that an upward adjustment of 5 percent is appropriate to make uncontrolled subcontractor power supply prices comparable to that of Compaq Asia power supply prices. This adjustment would increase the Compaq Asia aggregate power supply price by an additional 5 percent.

The regulations also state that differences in the level of the market at which purchases are made may impact price. See sec. 1.482-2A(e)(2)(ii), Income Tax Regs.; see also Woodward Governor Co. v. Commissioner, 55 T.C. 56, 66-67 (1970). In this case, there is no difference in the level of the market. Compaq Asia and unrelated subcontractors functioned as subcontractors to Compaq U.S. Thus, no adjustment is necessary.

Definite and reasonably ascertainable adjustments are also necessary if the geographic market in which the sales take place has an effect on price. See sec. 1.482-2A(e)(2)(ii), Income Tax Regs. Compaq U.S. subcontractors were primarily located in the United States and sold "FOB plant". Compaq Asia was located in Singapore and sold "FOB plant". While Compaq Asia and the unrelated subcontractors sold their PCA's from different locations, they all sold their products into the same market--the United States. The PCA industry is global in nature, and Compaq Asia competitors for Compaq U.S. business were located primarily in the United States. Contrary to respondent's

contentions, Compaq Asia was not competing with unrelated subcontractors in Singapore because those entities did not have the technology, equipment, engineering, or training required to make Compaq U.S. PCA's. Compaq U.S. exercised its business judgment during 1991 and 1992, when it needed additional PCA's, in purchasing those PCA's from unrelated subcontractors in the United States. Respondent may not substitute his business judgment for petitioner's under the guise of a section 482 allocation. See Bausch & Lomb, Inc. v. Commissioner, 92 T.C. at 593; Seminole Flavor Co. v. Commissioner, 4 T.C. 1215, 1235 (1945).

Compaq U.S. did, however, incur higher freight and duty costs when shipping PCA's from Compaq Asia rather than from the mostly U.S.-based unrelated subcontractors. Thus, price adjustments to reflect these differences are appropriate but do not render uncontrolled sales noncomparable. See sec. 1.482-2A(e)(2)(ii), Example (1), Income Tax Regs. The incremental freight costs that were required to ship PCA's from Compaq Asia during 1991 and 1992 were \$2.6 million, decreasing the Compaq Asia aggregate price by that amount. The parties also stipulated to the net duty costs that were incurred on the Compaq U.S. purchase of Compaq Asia PCA's. Compaq U.S. would not have incurred this net duty cost if it had purchased the PCA's from the primarily U.S.-based unrelated subcontractors. During 1991

and 1992, the appropriate adjustment for duty costs was to reduce Compaq Asia prices by \$1.2 million to make them comparable with unrelated subcontractor prices.

Compaq U.S. paid unrelated subcontractors for setup and cancellation charges but did not pay Compaq Asia for similar costs. Thus, at arm's length, an adjustment must be made for the setup and cancellation charges paid to the unrelated subcontractors. According to petitioner, for 1991 and 1992, the appropriate adjustment for the setup and cancellation charges was a \$2.9 million increase in Compaq Asia prices.

Regarding material inventories, petitioner argues that Compaq Asia had more at risk than did unrelated subcontractors, because Compaq Asia purchased materials and components based on a nonbinding forecast. Accordingly, if either demand or design for a PCA changed, Compaq Asia bore the risk that its materials and components inventory would not be used or would become obsolete. The unrelated subcontractors, on the other hand, waited until they received a firm purchase order before they committed to buying materials and components. Furthermore, Compaq U.S. contractually committed to be responsible for the materials and components inventories in the event that demand or design changed. Thus, Compaq U.S. and not the unrelated subcontractors bore the risk that design or demand would change. At arm's length, an adjustment is required to reflect the risks and costs

borne by Compaq Asia that were not borne by the unrelated subcontractors. The parties stipulated that, during 1991 and 1992, Compaq Asia incurred \$4.6 million in expenses related to cancellation of raw material contracts and component obsolescence. Of that amount, \$4.2 million is attributable to PCA cancellation and obsolescence costs with the remaining \$400,000 attributable to CPU cancellation and obsolescence costs.

The price adjustments asserted and quantified by petitioner are summarized in the following table:

	<u>Compaq Asia Price Increase/(Decrease)</u>
PCA price adjustment	(\$6.4 million)
Transactional adjustments Add:	
Payment terms	\$8.9 million
Advance purchase costs	\$4.2 million
Setup & cancellation charges	\$2.9 million
Less:	
Freight	(\$2.6 million)
Duties	(\$1.2 million)
Defective PCA costs	<u>(\$1.3 million)</u>
Overall PCA price adjustment	\$4.5 million

These adjustments would indicate that Compaq U.S. paid prices to Compaq Asia that were less than the comparable prices paid by Compaq U.S. to the unrelated subcontractors for nearly identical PCA's, adjusted for physical and transactional differences.

Petitioner somewhat inconsistently asks at some points that the Compaq Asia price be adjusted upward and at others that no section 482 adjustment be made. To the extent that petitioner implies that it is entitled to an affirmative adjustment reducing its U.S. tax liability, the evidence shows only consistency with arm's-length pricing, not inadequate pricing. In view of the necessity of approximations and adjustments, we are not persuaded that the prices contemporaneously charged by Compaq Asia to Compaq U.S. and used in petitioner's tax reporting should be retroactively adjusted to the advantage of petitioner.

Respondent, despite the Court's urging at the conclusion of trial, provides no alternative adjustment calculations. Respondent attacks petitioner's CUP analysis on several grounds, arguing that flaws in petitioner's reasoning undermine the credibility of petitioner's CUP. First, respondent argues that a majority of transactions constituting the CUP are consignment purchases converted to turnkey prices, the turnkey equivalent, and do not represent actual sales. Respondent argues that these transactions cannot be used as comparable prices to the turnkey transactions with Compaq Asia, because consignment purchases cannot accurately be converted to comparable prices.

Respondent's argument is unsupported by the record and was contradicted by respondent's expert, Chandler. Chandler's testimony on cross-examination included the following:

Q * * * your objections to the adjustment from consignment to turnkey then, in terms of the real world markup, really just come down to what the material markup is, right?

A Oh yes. That actually--yes. I have no qualms, the clear issue is how large the markup should be.

Q So you and I can agree that you can adjust from consignment to turnkey transactions, and you can do so with certainty.

A You can adjust from consignment to turnkey transactions, the--when you say whether you can do it with certainty is somewhat problematic since I clearly believe that sort of the 5 percent net should be done here and you believe that the 17.7 percent of gross should be used and that is a lot of money.

Q And the certainty point is that there is a range of different markups in the marketplace, isn't there?

A Yes.

Moreover, we do not believe that excluding the turnkey equivalent transactions from the analysis would change the result here. Respondent's failure to provide an alternative CUP analysis supports our impression that the undisputed actual transactions establish arm's-length consistency for petitioner's pricing.

Respondent also challenges the use of 17.7 percent as a material markup, arguing that markups on other transactions were less than 17.7 percent. Respondent's contention is that the excessive markup allows Compaq Asia to earn too much money. Instead, respondent advocates the use of a 5-percent material markup, despite not being able to point to one single arm's-length transaction that took place at such a minimal markup.

At trial, petitioner presented evidence showing that Compaq U.S. paid a 17.7-percent material markup on \$96 million of turnkey purchases from IEC and that the 17.7-percent IEC markup was typical in the PCA industry. Respondent's expert, Chandler, also conceded that this markup was consistent with and fell within the middle of the range of material markups actually observed in the marketplace. Thus, the Compaq Asia use of the 17.7-percent markup was appropriate and in accord with the evidence in this case.

Respondent also argues that the PCA's in the controlled and uncontrolled transactions were not identical or nearly identical as required by section 1.482-2A(e)(2)(ii), Income Tax Regs. The overwhelming evidence established that the PCA's within each category were substantially similar or nearly identical and differed in only two respects: (i) The cost of the specific components and materials used on each PCA and (ii) the amount of time required to process each PCA. As set forth above, in accordance with the applicable regulations, adjustments can be and were made to make the transactions comparable. Accordingly, transactions with unrelated subcontractors warranted application of the CUP method.

Respondent argues that volume discounts should apply to Compaq Asia sales in this case. The regulations do not enumerate volume as a factor that may impact price; rather, the regulations

merely provide that comparable uncontrolled sales "do not include sales at unrealistic prices, as for example where a member makes uncontrolled sales in small quantities at a price designed to justify a nonarm's-length price on a large volume of controlled sales." Sec. 1.482-2A(e)(2)(ii), Income Tax Regs. See generally Bausch & Lomb, Inc. v. Commissioner, 92 T.C. at 592.

Petitioner presented substantial evidence showing that the prices that Compaq U.S. actually paid to unrelated suppliers, although quoted by volume, were not ultimately established by volume. Testimony on this point came from the unrelated subcontractors as well as from Compaq U.S. purchasing personnel. The industry experts, Ray Prasad, Charles-Henri Mangin, and Tim Faucett, similarly opined that the higher volume did not lead to lower prices in this case. The testimony was that volume had no effect on price because unrelated subcontractors gave Compaq U.S. their best prices in light of the Compaq U.S. market position and overall level of potential business. Compaq U.S. was big enough and bought enough PCA's that it was able to demand and receive the best prices regardless of volume.

Respondent also challenges petitioner's use of unrelated subcontractor transactions from 1990 and 1993 in establishing an arm's-length price under the CUP method. Respondent argues that using transactions with unrelated subcontractors from 1990 and 1993 was inappropriate and tainted the validity of the CUP.

Using comparable transactions from years prior to the taxable years in issue is common in section 482 cases. See Sundstrand Corp. & Subs. v. Commissioner, 96 T.C. at 272-276, 305-309, 375-377, 392-395 (using comparable transactions from up to 20 prior years); Bausch & Lomb, Inc. v. Commissioner, *supra* at 587, 593 (using comparable sales from prior years); Ciba-Geigy Corp. v. Commissioner, 85 T.C. 172, 215-216, 224 (1985) (using comparable transactions from up to 12 years prior to the years in issue).

The transactions from 1990 and 1993 identified and used by petitioner did not significantly impact the conclusions of the CUP method. During 1990 to 1993, the prices that were paid to the unrelated subcontractors averaged 93.1 percent of the Compaq U.S. standard cost. During 1990 to 1992, the arm's-length prices that were paid to the unrelated subcontractors averaged 93.9 percent of the Compaq U.S. standard cost, and, during 1991 to 1992, the arm's-length price that was paid to the PCA subcontractors averaged 92.2 percent of the Compaq U.S. standard cost. Thus, to the extent that uncontrolled PCA prices changed over time, the Compaq U.S. standard costs moved with the uncontrolled prices.

Ultimately, respondent argues that, because the CUP method cannot be applied, a profits-based fourth method is the appropriate method of determining arm's-length prices in this

case. The Court was faced with the same "prices v. profit" argument in Bausch & Lomb, Inc. In that case, B&L Ireland, like Compaq Asia, had a lower cost structure than its competitors. Respondent argued in Bausch & Lomb, Inc., as he does here, that B&L Ireland should have earned the same net profit margins as its competitors. This Court held:

The fact that B&L Ireland could, through its possession of superior production technology, undercut the market and sell at a lower price is irrelevant. Petitioners have shown that the \$7.50 they paid for lenses was a "market price" and have thus "earned the right to be free from section 482 reallocations." * * * [Bausch & Lomb, Inc. v. Commissioner, supra at 592-593.]

The same is true in the present case. The CUP method establishes arm's-length prices for PCA's that were sold by Compaq Asia, and a large profit margin does not prevent use of the CUP method.

In summary, respondent's position ignores the prices that were paid by Compaq U.S. to unrelated subcontractors. Instead, respondent contends that Compaq Asia should earn the same net profit margins, while not charging the same prices, as the comparable companies. Because Compaq Asia costs were less than the costs of comparable companies, respondent asserts that the prices that were paid to Compaq Asia should be \$232 million less than the prices that were paid to the unrelated subcontractors for comparable PCA's. Respondent, however, is unable to identify a single actual market participant that sold PCA's at only two-thirds of the prevailing market price.

Conclusion

Petitioner has satisfied its burden of proving that the prices in the intercompany transactions were consistent with arm's-length prices.

Our holdings in this opinion will be incorporated into the decision to be entered in this case when all other issues are resolved.